

<b>JSC Safety and Health Handbook</b>	JPR No.	<b>1700.1K</b>
	Effective Date:	<b>11/25/2013</b>
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## **Chapter 9.4 Materials that Contain Lead: How to Work with Them Safely**

### **9.4.1 Applicability of this chapter**

9.4.1.1 You are required to follow this chapter if you do any task that involves materials that contain lead, such as:

- Removing lead-containing paints by any method such as grinding, buffing, scraping, burning or chemical peeling.
- Welding or torching cut metal that is coated with lead-containing paint.
- Performing abrasive blast on surfaces that are coated with lead-containing paints.
- Preparing surfaces where lead is present.
- Applying paint that contains lead.

9.4.1.2 Before working on any kind of maintenance or renovation project, you shall determine whether any hazardous materials are involved. These include lead, chromium, asbestos, and other physical, chemical, or biological hazards.

### **9.4.2 Requirements for working with lead**

Lead is a toxic material. Chronic or long-term overexposure may produce lead poisoning. Symptoms include headaches, stomach cramps, dizziness, drowsiness, tremors, loss of feeling, muscular aches, and pains. Prolonged exposure can affect the kidneys, bone marrow, and nervous and reproductive systems. If you do any of the tasks in paragraph 9.4.1, you shall follow 29 CFR 1910.1025, "Lead," and 29 CFR 1926.62, "Lead," for construction.

### **9.4.3 Lead exposure limits**

The permissible exposure limit (PEL) for lead is an airborne concentration of 50 micrograms per cubic meter of air ( $50 \mu\text{g}/\text{m}^3$ ) averaged over an 8-hour period. The action level for lead is an airborne concentration of  $30 \mu\text{g}/\text{m}^3$  of air calculated as an 8-hour time-weighted average.

### **9.4.4 Exposure monitoring**

9.4.4.1 If your employees perform any operations where lead-containing materials may become airborne, posing an inhalation hazard, you shall:

- First determine whether any employee is or will be exposed at or above the action level, as required in 29 CFR 1910.1025(d) and 29 CFR 1926.62(d) for construction. If you do not have personnel who are trained and equipped to do the evaluation, contact Occupational Health Branch at x36726 and they will do the evaluation.
- Provide initial and periodic exposure monitoring and feedback to employees as required in 29 CFR 1910.1025(d) and 29 CFR 1926.62(d) for construction
- Provide employees the opportunity to observe monitoring as required by 29 CFR 1910.1025(o) and 29 CFR 1926.62(o) for construction.

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#### **9.4.5 Protection from exposure**

9.4.5.1 Until your employer conducts exposure monitoring, your employer shall assume that your exposure to lead will exceed the PEL and provide you with the following:

- a. Exposure controls as required by 29 CFR 1910.1025(e) and 29 CFR 1926.62(e) for construction.
- b. Appropriate respiratory protection as required by 29 CFR 1910.1025(f) and 29 CFR 1926.62(f) for construction or before completing a lead exposure assessment in areas where there is a high risk of airborne lead exposure.
- c. Appropriate protective work clothing and equipment as required by 29 CFR 1910.1025(d) and 29 CFR 1926.62(d) for construction.
- d. Proper housekeeping as required by 29 CFR 1910.1025(h) and 29 CFR 1926.62(h) for construction. Vacuuming with high-efficiency particulate air (HEPA) filtration is the preferred method of cleaning surfaces and clothing.
- e. Hygiene facilities and practices as required by 29 CFR 1910.1025(i) and 29 CFR 1926.62(i) for construction, such as clean change areas, hand-washing facilities and eating areas.
- f. Posting signs as required by 29 CFR 1910.1025(m) and 29 CFR 1926.62(m) for construction.

#### **9.4.6 Respiratory protection**

9.4.6.1 You shall use respiratory protection:

- a. When engineering and work practice controls cannot reduce exposures below the PEL.
- b. Any time an employee requests it.
- c. Before completing a lead exposure assessment in areas where there is a high risk of airborne lead exposure.

See Chapter 7.2, "Respiratory Protection," of this Handbook for more requirements.

#### **9.4.7 Protective work clothing and equipment**

9.4.7.1 When your exposure to lead exceeds the PEL, your employer shall provide you with clean and dry protective clothing. Don't take lead-contaminated clothing home or remove dust by blowing or shaking. This includes clothing such as the following:

- a. Coveralls
- b. Gloves
- c. Shoes
- d. Face shields
- e. Vented goggles
- f. Other appropriate protective equipment

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#### **9.4.8 Housekeeping**

You shall keep all surfaces as free as possible of lead dust and follow specific work practices. Never use compressed air hoses for cleaning unless they are used in conjunction with a ventilation system.

#### **9.4.9 Hygiene facilities and practices**

9.4.9.1 You need to use wash facilities whenever you are exposed to lead. Once your exposure to lead exceeds the PEL, your employer shall provide the following:

- a. Change areas
- b. Showers (where feasible)
- c. Eating areas

#### **9.4.10 Posting signs**

You shall post signs in areas exceeding the PEL to keep untrained and unprotected personnel from entering the area. These signs shall state: **WARNING: LEAD WORK AREA, POISON, NO SMOKING OR EATING.**

#### **9.4.11 Medical surveillance**

9.4.11.1 Initial medical surveillance of tests for blood lead (PbB) and ZPP levels is required if you are exposed to lead above the action level on any 1 day. Periodic blood tests for PbB and ZPP are required if you are exposed to lead above the action level for more than 30 days in any 12-month period. Medical surveillance shall follow 29 CFR 1910.1025(j) and 29 CFR 1926.62(j) for construction. A program of periodic medical exams shall be made available when you:

- a. Have a PbB test at or above 40 µg/dl.
- b. Notify your employer that you have signs of lead intoxication.
- c. Desire medical advice on the ability to produce a child.
- d. Become pregnant.
- e. Have difficulty breathing during a respirator fit test or during use.

See Chapter 3.6, "Occupational Healthcare Program," of this Handbook for more information.

#### **9.4.12 Medical removal protection**

9.4.12.1 Medical removal protection ensures that you will be removed from any type of work where lead exposures exceed the action level, as required by 29 CFR 1910.1025(k) and 29 CFR 1926.62(k) for construction.

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### **9.4.13 Information and training**

9.4.13.1 If your exposure to lead equals or exceeds the action level on any 1 day, you shall have yearly lead training as required by 29 CFR 1910.1025(l) and 29 CFR 1926.62(l) for construction, and that includes :

- a. Content of the OSHA standard.
- b. Specific exposure-producing operations.
- c. Respiratory protection program.
- d. Medical surveillance programs.
- e. Methods of compliance.
- f. Written compliance program.
- g. Use of chelating agents.
- h. Access to records

**NOTE:** See Chapter 4.1, "Safety and Health Training," of this Handbook for more information.

### **9.4.14 Records**

As an employer, you shall maintain records as required by 29 CFR 1910.1025(n) and 29 CFR 1926.62(n) for construction, and make all records available on request to employees, former employees, their designated representatives, and OSHA.